GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA

UNSTARRED QUESTION NO:1823
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Weather Forecasting
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Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether monsoon prediction and weather forecast system in the country is not accurate and if so, the details thereof and the reasons therefor;

(b) the details of the initiatives taken to improve monsoon prediction and weather forecast during the last three years and the current year;

(c) whether the Government is taking assistance of foreign countries for accurate weather forecast and if so, the details thereof;

(d) the details of monsoon and weather forecast centres working in the country and the benefits accrued to general public and farmers by these centres during the last three years and the current year;

(e) the details of funds incurred on research and development of new technology during the last three years and current year so far; and

(f) whether the Government proposes to set up more regional centres and Doppler Weather Radars (DWRs) to improve monsoon prediction, weather forecast and other climatic phenomena and if so, the details thereof?

Answer

THEMINISTER OF STATE FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTRY OF EARTH SCIENCES
(SHRI Y. S. CHOWDARY)

(a) No Madam. There is no reason to carry such impression about the performance of the India Meteorological Department (IMD) that operates a dedicated weather and climate monitoring, detection and warning services useful for various sectors of economy. The weather forecasting systems in the country are comparable to most of the countries in the world. Efforts are continuously made to enhance the level of efficiency of the forecasting systems.

(b)-(c) Improvement of weather forecasting services is a continuous process. Government has initiated a comprehensive modernization programme for IMD covering upgradation of (i) observation systems (ii) advanced data assimilation tools (iii) advanced communication and IT infrastructure (iv) high performance computing systems and (v) intensive/sophisticated training of IMD

personnel to facilitate the implementation of advanced global/regional/ meso-scale prediction models for improving the accuracy of weather forecasts in all temporal and spatial scales and for quick dissemination of weather forecast assessments/warnings to the users.

Under the National Monsoon Mission initiative, the Indian Institute of Tropical Meteorology (IITM), Pune, Indian National Centre for Ocean Information Services (INCOIS), Hyderabad and National Centre for Medium Range Weather Forecasting (NCMRWF), NOIDA have embarked upon to build a state-of-the-art coupled ocean atmospheric model for a) improved prediction of monsoon rainfall on extended range to seasonal time scale (16 days to one season) and b) improved prediction of temperature, rainfall and extreme weather events on short to medium range time scale (up to 15 days) so that forecast skill gets quantitatively improved further for operational services of IMD. Forecasts, early warning of severe weather events and advisories are issued by IMD at national, regional and state levels. In order to provide early warning of severe weather events, IMD has setup a network of state meteorological centres to have better coordination with the state and district level agencies.

Through Indo-US collaboration, a "Monsoon Desk" has been set up for working jointly for improving seasonal forecast of Indian monsoon rainfall. Through this forum, Indian and US Scientists are exchanging their ideas and sharing their expertise. This effort has led to appreciable improvements in the efficiency of models in making better forecasts.

(d) The names of the Meteorological Office/Center responsible to issue monsoon and weather forecasts in various states are in Annexure-I.

The Gramin Krishi Mausam Seva (GKMS) of IMD has been successful in providing the crop specific advisories to the farmers through different print/visual/Radio/ IT based media including short message service (SMS) and Interactive Voice Response Service (IVRS) facilitating for appropriate field level actions. Weather forecast based agrometeorological advisories are disseminated through Kisan portal launched by the Ministry of Agriculture and also under public private partner. At present, the GKMS products are disseminated through SMS and IVRS to 19.1 million farmers in the country.

As per the recent National Council of Applied Economic Research (NCAER) report, farming community of the country is using the GKMS service products of India Meteorological Department (IMD) for critical farm operations Viz. i) Management of sowing (Delayed onset of rains); ii) Changing crop variety (Delay in rainfall); iii) Spraying Pesticides for disease control (occurrence of rainfall); iv) Managing Irrigation (Heavy rainfall Forecast).

According to a survey, the agriculture specific forecasts of IMD have been found reliable by more than 93 percent of Indian formers. 95% of the farmers say that forecasts of IMD have improved during last 2-4 years. Further: Most of farmers felt that there had been an improvement in the timeliness of the weather forecasts. Among various components of weather elements, rainfall component has the highest priority. Concurrently, with the implementation of District Level AgroMeteorological Advisory services, India has seen improved agriculture performance in the rain fed farming (Covers 60% of arable land). Incremental profit due to GKMS is assessed at 25% of the net income.

Potential Annual Economic profit by using GKMS by 24% of the community cultivating 4-principle crops (wheat; paddy; sugarcane; cotton) in 2010 was assessed at Rs. 38,463 Crores (when 2.0 million farmers were subscribed to SMS service), the annual profit rose to Rs.42,000 Crores in 2015 (11.5 million farmers have been subscribed to SMS service), Top11- Principal Crops was assessed as 56,310 Crores and top 28- Principal Crops was assessed as Rs. 67,000 Crores in 2015. The study suggests that GKMS has the potential of generating net economic benefit up to Rs.3.3 lakh crores on the 4-principal crops alone when Agro-Meteorological advisory is fully utilized by 90.3 million dependent households.

(e) No specific budget allocation was provided for Research & Development in IMD. However, the details of funds utilized for Plan Schemes during the last three years and current year are as follows:

S.No. Financial Year Funds Utilised (Rs.in Crores)
1. 2013-14 117.25
2. 2014-15 103.91
3. 2015-16 144.38
4. 2016-17 17.07

(f) Augmentation of the observing system networks for the upgradation of IMD is a continuing process that shall be taken up as per the emerging needs from time to time.